REMARKS

Claims 33-60 remain in this application. Applicants have amended claims 33, 54 and 55 to more clearly point out their invention. In particular, applicants have amended claims 33, 54, and 55 to clarify that applicants conceal macroblocks having pixel errors using a weighting determined from the weighting used during weighted prediction coding of the macroblocks. Ample antecedent basis for these amendments exists at page 7, lines 20-27 of applicants' specification so applicants have added no new matter.

Before proceeding to address the examiner's rejections, applicants will briefly summarize their invention to assist the examiner in better appreciating the differences between applicants' claimed invention and the prior art. Briefly, as recited in newly amended claims 33, applicants provide a method of concealing spatial errors during decoding of an image comprised of a stream of macroblocks coded using a weighting in accordance with weighted prediction. The method commences by first examining at least one macroblock for pixel data errors. If any such errors exist, then applicants weight the at least one macroblock in accordance with the weighting used during weighted prediction decoding of a macroblock in the stream using at least one reference picture to yield a weighted prediction for concealing the at least one macroblock-found to have pixel errors. Applicants' amended independent claims 54 and 55 include similar language.

Applicants' error concealment technique makes use of the same weights generated during weighted prediction coding which reduces error propagation associated with prior art concealment techniques.

35 U.S.C. § 102(b) of Claims 33-39, 43-57, 50-51 53-57 and 59-60

Claims 33-39, 43-57, 50-51 53-57 and 59-60 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 7,606,313 to Arvind Raman et al, (hereinafter, "the Raman et al. patent"). The examiner contends that the Raman et al. teaches applicants' weighted prediction for error concealment based on the weighted prediction decoding, therefore anticipating applicants' claims. Applicants respectfully disagree especially in view of applicants' newly amended claims.

Applicants submit that the Raman et al. patent teaches the use of weighted pixel values for error concealment. However, the weighted error concealment technique disclosed

by Raman et al. does not make use of the same weighting as used during weighted prediction

decoding of macroblocks in the stream. In this regard, Raman et al. does not teach or suggest

applicants' newly recited feature of:

> weighting the at least one macroblock in accordance with the weighting used
> during weighted prediction decoding of a macroblock in the stream using at least
> one reference picture to yield a weighted prediction for concealing the at least
> one macroblock-found to have pixel errors.

Indeed, Raman et al. say nothing concerning weighted prediction decoding of a macroblock

as now recited in amended claims 33 and 54. Moreover, Raman says nothing about making

use of a reference picture of a different frame (inter-prediction coding) as recited in claim 55.

As discussed in applicants' prior response, Raman teaches a concealment technique

which makes use of an estimated sum inversely weighted in accordance with distance

between the pixel being estimated, and the pixel used for estimation. (See Col. 4, lines 43-50

of Raman et al.). Alternatively, Raman et al. weighs the pixels as a function of pixels in an

undamaged portion of the macroblock. (See Col. 8, lines 48-58 of Raman et al.). **However,

the weighting performed by Raman has nothing to do the weighting occurring during

weighted prediction coding of the image.**

With regard to anticipation, the Federal Circuit has mandated that "Anticipation

requires the presence in a single prior art reference disclosure of each and every element of

the claimed invention, arranged as in the claim" (*Lindemann Maschinenfabrik GmbH v.

American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1983))

(emphasis added). In this regard, the examiner has not shown that the weighting undertaken

by Raman et al. has any relationship to the weighting occurring weighted prediction coding.

In fact, Raman et al. says nothing about weighted prediction coding at all. Thus, Raman et al.

does not show each and every element of applicants' claimed invention as arranged in the

claim. For this reason alone, applicants request withdrawal of the 35 U.S.C. § 102(b) of

claims 33-39, 43-57, 50-51 53-57 and 59-60.

With regard to claim 55 and the claims that depend therefrom, Raman does not

disclose use of a reference picture from another frame for decoding. Thus, claim 55 and

claims 57 and 59-60 patentably distinguish over Raman et al., warranting withdrawal of the

35 U.S.C. § 102(b) rejection of these claims.

35 U.S.C. § 103(a) Rejection of Claims 40-42, 48-49, 52, and 58

Claims 40-42, 48-49, 52, and 58 stand rejected under 35 U.S.C. § 103(a) as obvious over the Raman et al. patent, as discussed above, in view of US Published Application 20030215014 in the Shinichiro Koto et al. Applicants respectfully traverse the rejection in view of the amendments to claims 33 and 55.

Claims 40-42 and 48-49 and 52 depend from newly amended claim 33 and incorporate by reference all of the features thereof, including the feature of:

> weighting the at least one macroblock in accordance with the weighting used during weighted prediction decoding of a macroblock in the stream using at least one reference picture to yield a weighted prediction for concealing the at least one macroblock-found to have pixel errors.

Claim 58 depends from newly amended claim 55 and incorporate by reference all of the features thereof, including the feature of:

> an error concealment parameter generator for generating values for weighting at least one macroblock using the weighting from a reference picture of a different frame using one of a first and second weighting modes in accordance with the decoding of the macroblocks for concealing a macroblock found to have pixel errors

Thus, claim 58 includes the feature of weighing the macroblock from a reference picture of a different frame.

As discussed above with respect to the 35 U.S.C. § 102(b) rejection of claims 33-39, 43-57, 50-51 53-57 and 59-60, the Raman et al. patent says nothing regarding weighting the at least one macroblock in accordance with the weighting used during weighted prediction decoding of a macroblock. The Koto et al. published application does nothing to cure this deficiency of Raman et al. At best, the Koto et al. published application concerns a video encoding method that extracts a reference macroblock from a plurality of frames to generate reference blocks which are weighted and summed to yield a predictive macroblock.

Applicants' acknowledge the teaching in Koto et al. of weighted predictive decoding, which is well known in the art. However, Koto et al. says nothing about error concealment, and thus, would not provide the missing teaching in Raman et al. regarding weighting the at least one macroblock in accordance with the weighting used during weighted prediction decoding of a macroblock. The complete failure of Koto et al. regarding any mention of error concealment would certainly not lead a skilled artisan to conceive of the examiner's proposed

combination of Raman et al. and Koto et al. For this reason as well, applicants' claims 40-42 and 48-49, 52, and 58 patentably distinguish over the art of record. Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of these claims.

Conclusion

In view of the foregoing, applicants solicit entry of this amendment and allowance of the claims. If the Examiner cannot take such action, the Examiner should contact the applicant's attorney at (609) 734-6820 to arrange a mutually convenient date and time for a telephonic interview.

No fees are believed due with regard to this Amendment. Please charge any fee or credit any overpayment to Deposit Account No. **07-0832.**

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Respectfully submitted,
Peng Yin et al.
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